SPECIFICATION AMENDMENTS:

Please amend the last paragraph of page 4 extending to page 5 as follows --

The spindle housing 8 is disposed on a carriage 12 in which the primary part 13 of a ~~linear motor~~ linear motor 18 is integrated. The primary part 13 forms a linear motor 18 together with the secondary part 17 which is integrated in the vertically extending carrier 15 (see Fig. 3). This linear motor 18 effects the lifting motion of the spindle housing 8. The carrier 15 is mounted to the machine frame 16. The carriage 12 with integrated primary part 13 can be lifted and lowered on the sliding rails 14, which, in turn, are fixed to the carrier 15. The primary part 13 is the moving part and the secondary part 17 is the stationary part of the linear motor --.

Kindly amend the last paragraph of page 6 extending to page 7 as follows --

The structure of the spindle housing 8 is shown in Fig. 4. The electromotor 9 is integrated in the spindle housing 8. It causes rotation of the honing spindle and consists of a stator 25 with windings 25' and rotor 26. The stator 25 is pressed into a sleeve 37 which is screwed to the end plates 33, 34 using screws 36 (only shown at 34). The rotor 26 is pressed onto the outside of the honing spindle 7. The stator 25 is supplied with current via the connections 27. The rotor 26 is a permanent magnet. The spindle housing 8 is screwed to the carriage 12 using screws 30. The honing spindle 7 is supported in the spindle housing 8 via bearings 31 or 32 in ~~a front or rear~~ front and rear end ~~plate 33 or 34~~ plates 33 and 34. The end

plates 33 or 34 are screwed to the spindle housing 8 using screws 35. The sleeve 37 has a spiral cooling channel 38 which is supplied with coolant via the coolant delivery line 39. The coolant discharge is not shown: it is disposed on the opposite side. --.

Please amend the second full paragraph of page 7 as follows --

The honing spindle 7 has a continuous bore 40 in which the connecting rod 110 is disposed to be displaceable in an axial direction. The ~~right-hand~~ lower end of the connecting rod 110 has a bore 112 with inner thread into which the widening bar 11 is rigidly screwed, such that the connecting rod 110 and the widening bar 11 form a unit and can be commonly displaced in the longitudinal direction (axial direction) of the axis of rotation. The honing strips 5 are thereby radially displaced towards the outside. Honing tools 4 of this type are known in the art. During operation, the honing strips are radially pulled inward through springs and have inclined adjustment surfaces on their inner sides which cooperate with correspondingly inclined adjustment surfaces at the end of the widening bar 11 such that, when the widening bar 11 is axially displaced, the honing strips 5 are radially adjusted (spreading mechanism). --.

Kindly amend the last paragraph of page 7 extending to page 8 as follows --

The connecting rod 110 and the widening bar 11 rotate together with the honing spindle 7 but can also be axially displaced therein (in the longitudinal direction) as mentioned above. This is realized in that the connecting rod 110 is penetrated by a pin 46 whose ends are guided in

opposite grooves 46' in the honing spindle 7. The bore 40 in the honing spindle 7 has a shoulder 43 onto which a ring 41 is urged via a spring 45 which is supported with its other end on the pin 46. At rest, the connecting rod 110 is forced by the spring 45 in its outermost upper position shown in Fig. 4. The connecting rod 110 may then be downwardly displaced against the force of the spring 45~~, i.e. when the plunger 47 has been sufficiently moved downwards such that it urges the bottom 48' of the recess 48 downwardly. The connecting rod 110 is then also pressed downwards~~. --.

Please amend the first full paragraph of page 8 as follows --

The plunger 47 is a continuation of a coupling piece 49 into the axial recess 49' of which the driven ~~shaft 150~~ shaft 50 of the servo motor 10 projects. Coupling in the rotational direction ~~with simultaneous displaceability in the longitudinal direction~~ is realized by a tongue/groove connection formed by a groove 151 and wedge ("spring") 152. --.

Please amend the second full paragraph of page 8 as follows --

The coupling housing 51 is screwed to the front end plate 34 of the spindle housing 8. The screws are not shown. A sleeve 52 is inserted into the coupling housing 51. The sleeve 52 ~~rotates together with the coupling housing 51 and~~ can be axially displaced ~~therein~~ in the coupling housing 51, since a ~~block 160~~ block 160, which is screwed into the sleeve 52 and radially projects past it, projects into a groove 161 in the sleeve 53 and is guided therein. The sleeve 52 can be displaced relative to the coupling housing 51 through a stroke H. The upper end of the connecting rod 110

is rotatably disposed in the sleeve 52 using bearings 165. The inner shells of the bearings 165 are rigidly connected to the connecting rod. A lid 166 is screwed to the connecting rod 110 to fix the bearing 165. --.

Please amend the last paragraph of page 8 extending to page 9 as follows --

The sleeve 52 also receives an adjusting sleeve 53 which rotates therewith and can be displaced and adjusted in a longitudinal direction. This connection is also realized through a tongue and groove connection which is formed by the wedge 54 and the groove 55. The adjustment sleeve 53 is penetrated by a bore which has an inner thread 56. An outer thread 56' of the plunger 47 engages therein. The adjustment sleeve 53 is secured in the sleeve 52 through a lid 167 which is screwed to the sleeve 52. ~~If~~ When the servomotor 10 and thereby also its driven ~~shaft 150~~ shaft 50 rotate, the coupling piece 49 is also rotated due to the tongue and groove connection 151, 152. Due to engagement of the threads 56, 56', the ~~coupling piece 49~~ sleeve 52 is displaced in an axial direction and ~~the plunger 47 is moved in a longitudinal direction (to the right). When the plunger 47 is forced against the bottom 48' of the recess 48,~~ the connecting rod 110 together with the widening bar 11 are displaced ~~to the right hand side~~ in a downward direction against the force of the spring 45, thereby effecting radial adjustment of the honing strips 5 within the honing tool 4 as mentioned above. --.

Please amend the first full paragraph of page 10 as follows --

The embodiment with axial delivery of the bar 306 in accordance with Figs. 6 and 7 addresses a processing task which is explained by means of Fig. 8. The tool is a conical precision grinding body 300 which serves for processing a valve seat surface 305. The valve seat surface 305 must thereby be removed by a defined amount, e.g. a few hundreths of a millimeter, which is calculated e.g. using a sensor. ~~Shape~~ The shape and surface must be simultaneously improved. The conical precision grinding body 300 is disposed on the bar 306 which has a threaded pin 307 at its end which is connected to the end of the connecting rod 120. In this manner, minimum stroke paths can be realized by means of the servomotor 10 or the further linear motor 200. This may be effected either with one stroke motion or several small stroke motions which are intermittently applied, e.g. for sparking out after only relatively few rotations or for rinsing with coolant after each stroke. --.

FIGURE AMENDMENTS:

Please replace Figures 3 and 5 with replacement sheets 3 and 5 as enclosed herewith -- --.